

- 3 -

Application No. 10/780,119

Docket No. 033171-146

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In the Claims:

1. (Currently Amended) Air-conditioning and heating system for a motor vehicle having a first coolant circuit which comprises an electrically driven compressor, a condenser, an expansion valve and a latent cold holdover, from which heat is extracted by the coolant circuit, and an air cooling mechanism which extracts heat from the air and feeds the heat to the latent cold holdover, and a second coolant circuit which comprises an electrically driven pump, a heat exchanger, via which heat is extracted from the air and is then fed to the latent cold holdover.

a heating means for providing a source of heat for delivery to within the motor vehicle and

a blower for directing air both over both said heat exchanger and said heating means,

wherein a motor-driven generator is provided for supplying electricity to the electrically driven compressor when the motor vehicle is in a driving mode in which the vehicle motor is on for enabling the electrically driven compressor to be operated at a high power level during the driving mode and wherein a battery is provided for supplying electricity to the electrically driven compressor when the motor vehicle is in a stationary operating mode in which the vehicle motor is off and during which the electrically driven compressor is inactive or at most operated at a low power level, and

wherein the latent cold holdover is connected between the first and second coolant circuits with both the first and second coolant circuits passing therethrough, the first coolant circuit being operative for charging the latent cold holdover during said driving mode and said second coolant circuit being operative for extracting cold from the latent cold holdover during said stationary operating mode.

2-6. (Cancelled).

7. (Currently Amended) Air-conditioning system and heating according to 1, wherein the generator is driven by a drive shaft of a drive of the motor vehicle.

8-14. (Cancelled).

- 4 -

Application No. 10/780,119  
Docket No. 033171-146

15. (Currently Amended) Air-conditioning system for a vehicle, the system having a first operational mode when the vehicle engine is on and a second operational mode when the vehicle engine is off, the system comprising:

a generator mechanically driven by a vehicle engine, the generator being configured for forming an electrical current during the first operational mode of the vehicle engine;

a first circuit having a first coolant circulating therein, the first circuit including:

an electrically driven compressor selectively powered by the electrical current from the generator,

a condenser,

an expansion valve, and

a latent cold holdover having a cold holdover medium,

wherein the first coolant is circulated through the first circuit to charge the latent cold holdover; and

a second circuit having a second coolant circulating therein, the second circuit including:

an electrically driven pump powered by a battery,

the latent cold holdover having the cold holdover medium, and

a heat exchanger located within an interior compartment of the vehicle,

wherein, during the first operational mode, the electrically driven compressor is selectively powered by the generator to charge the latent cold holdover through the first coolant and the electrically driven pump is powered by the battery to pump the second coolant through the latent cold holdover and heat exchanger to cool the cabin of the vehicle, and

wherein the electrically driven pump is powered by the battery during the second operational mode for pumping the second coolant through the latent cold holdover and heat exchanger to cool the cabin of the vehicle and the compressor is inactive.

16. (Currently Amended) The system of 15, wherein the electrically driven compressor is selectively also powered by the battery to charge the latent cold holdover through the first coolant during the first operational mode.

- 5 -

Application No. 10/780,119  
Docket No. 033171-146

17. (Withdrawn) The system of 15, wherein the electrically driven compressor is selectively powered by a fuel cell to charge the latent cold holdover through the first coolant during the first operational mode.

18. (Previously Presented) The system of 15, wherein the generator is driven by rotation of a drive shaft of the vehicle engine.

19. (Previously Presented) The system of 15, wherein power supplied to the electrically driven compressor is independent of the rotational speed of a drive shaft of the vehicle engine.

20. (Previously Presented) The system of 15, wherein the compressor functions at more than one power level.

21. (Previously Presented) The system of 20, wherein the compressor functions at a high power level in the first operational mode and a low power level in the second operational mode.

22. (Previously Presented) The system of 15, wherein the expansion valve is controllable.

23. (Withdrawn) The system of 15, wherein the expansion valve comprises a restrictor.

24. (Previously Presented) The system of claims 15, wherein the first circuit further includes a collector.

25. (Previously Presented) The system of claims 15, wherein the collector comprises a drier.

26. (Previously Presented) The system of 15, wherein the heat exchanger is located in a driver's compartment of the vehicle.

27. (Withdrawn) The system of 15, wherein the heat exchanger is located in a sleeping space

- 6 -

Application No. 10/780,119  
Docket No. 033171-146

of the vehicle.

28. (Previously Presented) The system of 15, wherein the first circuit further includes a first blower associated with the condenser.

29. (Previously Presented) The system of 15, wherein the second circuit includes a second blower associated with the heat exchanger.

30. (Previously Presented) The system of 15, wherein the condenser comprises a gas cooler.